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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/681,203	10/09/2003	Hidayat Husain	4320-521	6009	
1059	7590 06/21/2006		EXAM	EXAMINER	
BERESKIN AND PARR 40 KING STREET WEST			CECIL, TERRY K		
BOX 401	IKEEI WESI		ART UNIT	PAPER NUMBER	
TORONTO, ON M5H 3Y2			1723		
CANADA			DATE MAILED: 06/21/2006	5	

Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No.	Applicant(s)	
	10/681,203	HUSAIN ET AL.	
Office Action Summary	Examiner	Art Unit	
	Mr. Terry K. Cecil	1723	
The MAILING DATE of this communication Period for Reply	appears on the cover sheet w	th the correspondence address	
A SHORTENED STATUTORY PERIOD FOR RETHE MAILING DATE OF THIS COMMUNICATION  - Extensions of time may be available under the provisions of 37 CF after SIX (6) MONTHS from the mailing date of this communication.  - If the period for reply specified above is less than thirty (30) days, if NO period for reply is specified above, the maximum statutory period for reply within the set or extended period for reply will, by some Any reply received by the Office later than three months after the rearned patent term adjustment. See 37 CFR 1.704(b).	ON. FR 1.136(a). In no event, however, may a rn. n. a reply within the statutory minimum of thinering will apply and will expire SIX (6) MON statute, cause the application to become AB	reply be timely filed  by (30) days will be considered timely.  ITHS from the mailing date of this communications (35 U.S.C. § 133).	cation.
Status			
1) Responsive to communication(s) filed on 1	11 April 2006.		
2a) ☐ This action is <b>FINAL</b> . 2b) ☑	This action is non-final.		
3) Since this application is in condition for all closed in accordance with the practice und	· · · · · · · · · · · · · · · · · · ·	· •	its is
Disposition of Claims			
4) Claim(s) 1 and 3-9 is/are pending in the ap 4a) Of the above claim(s) is/are with 5) Claim(s) is/are allowed. 6) Claim(s) 1 and 3-9 is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction as Application Papers 9) The specification is objected to by the Exar 10) The drawing(s) filed on 09 October 2003 is	ndrawn from consideration.  nd/or election requirement.  miner.	bjected to by the Examiner.	
Applicant may not request that any objection to Replacement drawing sheet(s) including the co	prrection is required if the drawing	(s) is objected to. See 37 CFR 1.1	• •
Priority under 35 U.S.C. § 119			
12) Acknowledgment is made of a claim for form a) All b) Some * c) None of:  1. Certified copies of the priority docum 2. Certified copies of the priority docum 3. Copies of the certified copies of the application from the International Bu * See the attached detailed Office action for a	nents have been received. nents have been received in A priority documents have been ıreau (PCT Rule 17.2(a)).	pplication No. <u>09/893,638</u> . received in this National Stage	· 9
ood the attached gotalied office action for a	risk of the certified copies not	received.	
Attachment(s)			
<ol> <li>Notice of References Cited (PTO-892)</li> <li>Notice of Draftsperson's Patent Drawing Review (PTO-948</li> <li>Information Disclosure Statement(s) (PTO-1449 or PTO/SE Paper No(s)/Mail Date</li> </ol>	Paper No(s	Summary (PTO-413) S)/Mail Date nformal Patent Application (PTO-152)	

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#### **DETAILED ACTION**

# Specification

1. The disclosure is objected to because of the following:

• The abstract of the disclosure is objected to because it is too long: approx. 170 words (greater than 150 words). See MPEP § 608.01(b).

Appropriate correction is required.

## Claim Rejections - 35 USC § 112

- The following is a quotation of the second paragraph of 35 U.S.C. 112:
   The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
- 3. Claims 1 and 3-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are indefinite because of the following reasons:
- The following terms lack antecedent basis: "the module feed inlet" (claim 3); "the module outlet" (claim 3); "the permeate outlet" (claim 3); "the lumens" (claim 5); "the hollow fibre membranes" (claim 5).
- Because claim 3 includes two different outlets, the antecedent basis of "the outlet" of claim 1 (which depends from claim 3) is unclear.
- The balance of the claims are rejected since they suffer the same defects as the claims from which they depend.

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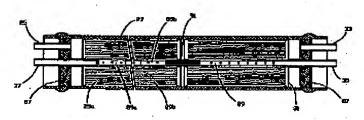
## Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

- 1. Determining the scope and contents of the prior art.
- 2. Ascertaining the differences between the prior art and the claims at issue.
- 3. Resolving the level of ordinary skill in the pertinent art.
- 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- 5. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uhlinger (U.S. 6,190,556). Uhlinger teaches a filtration process removing hardness (e.g. divalent ions) including filtering in a membrane module having a plurality of stages in series. Rejection of



is greater than 75% (e.g. 95%) and greater than 0.1 gfd/psi (e.g. 25/144= .16 psi), col. 12, lines 52-63). Uhlinger doesn't teach the claimed minimum

feed/retentate velocity (of claims 3 and 4) of the stages but such is considered to be within ordinary skill and depends upon the pressure and temperature of the system; the hardness concentration of the water; desired purity, etc. In Uhlinger the minimum velocity between stages also depends upon the outlet flow rate of reverse osmosis produce through line 71.

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6. Claims 1 and 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uhlinger in view of the Japanese Reference 63-171605. Uhlinger was expanded above. '605 teaches backwashing hollow fiber lumens of a membrane module with water having CO2 therein at time when the permeate production is stopped [as in claims 1, 4-5 and 7-9]. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the backwashing step of '605 in the method of Uhlinger since '605 teaches the benefit of safely remove the deposits on the surfaces of hollow yarn membranes and because Uhlinger recognizes the necessity of cleaning (col. 10, lines 52+). As for claim 6, adding CO2 to the water to have the Langelier zero or slightly negative is within ordinary skill and obvious to prevent washing fluid that is corrosive and that would damage the membranes. Uhlinger desires to maintain the integrity of the membranes (col. 10).

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7. Contact Information:

• Examiner Mr. Terry K. Cecil can be reached at (571) 272-1138 at the Carlisle campus in

Alexandria, Virginia for any inquiries concerning this communication or earlier

communications from the examiner. Note that the examiner is on the increased flextime

schedule but can normally be found in the office during the hours of 8:30a to 4:30p, on at

least four days during the week M-F.

• Wanda Walker, the examiner's supervisor, can be reached at (571) 272-1151 if attempts to

reach the examiner are unsuccessful.

• The Fax number for this art unit for official faxes is (571) 273-8300.

• Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status information

for unpublished applications is available through Private PAIR only. For more information

about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access

to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197

(toll-free).

Mr/Terry K. Ce Primary Examin Page 5

Primary Examiner

TKC June 17, 2006